

Claims:

1. A method of processing a data set comprising:

compressing the data set in multiple passes by categorizing each data signal in the data set into a category of a predetermined set, and, for selected categories of the predetermined set, coding the data signals for that category using a codebook for that category.

2. The method of claim 1, and further comprising:

decompressing the data set by, for compressed data signals in the data set in a category of a predetermined set of categories, employing a particular data signal associated with the particular category, and, for selected categories of the predetermined set, decoding the compressed data signals for that category using a codebook for that category.

3. A method of compressing a plurality of data signals in binary digital signal form comprising:

in a first pass, categorizing each of the data signals in binary digital signal form into one of a predetermined set of rank order categories based, at least in part, on the particular values of the binary digital signals for the particular data signal, each of the rank order categories having a codebook; and

in a second pass, for at least some of the rank order categories, coding the data signals in binary digital signal form in that category using the codebook for that category so that a predetermined binary digital signal budget is not exceeded for the entire plurality.

4. A method of decompressing a compressed data set comprising:

for compressed data signals in the data set in one of a predetermined set of categories, employing a data signal associated with the particular category for the compressed data signal, and, for selected categories of the predetermined set, decoding the compressed data signals for that category using a codebook for that category.

5. The method of claim 4, wherein the decompression is performed in multiple passes.

6. A method of compressing a data set comprising:

in multiple passes, categorizing each data signal in the data set into a category of a predetermined set, and, for selected categories of the predetermined set, coding the data signals for that category using a codebook for that category.

7. The method of claim 6, wherein the data signals comprise binary digital signals.

8. The method of claim 7, wherein for the categories that are not coded, each data signal in that category is represented as the binary digital signals assigned to that category.

9. The method of claim 8, wherein the number of predetermined categories is a power of two.

10. The method of claim 8, wherein the codebook for each of the selected categories is different.
11. The method of claim 8, wherein the codebook for each of the selected categories is the same.
12. The method of claim 8, wherein the data signals are coded so that a predetermined binary digital signal budget is not exceeded.
13. The method of claim 12, wherein the categories have a rank order, the higher rank order categories being coded before the lower rank order categories until the budget is expended.
14. The method of claim 13, wherein, within a particular category, the data signals have a rank order, the higher rank order data signals being coded before the lower rank order data signals until the budget is expended.
15. The method of claim 8, wherein the data set is compressed for storage on a storage medium.
16. The method of claim 15, wherein the storage medium comprises a flash chip.
17. The method of claim 8, wherein the data set is compressed for transmission across a network.
18. The method of claim 17, wherein the network comprises the Internet.

19. The method of claim 8, wherein the data set comprises data representing one of an image, audio signals, a sequence of images, and any combination thereof.

20. An article comprising: a storage medium, said storage medium having stored thereon data signals representing instructions, the instructions, when executed by a system recognizing the instructions, resulting in:

multiple passes over a data set, categorizing each data signal in the data set into one category of a predetermined set, and, for selected categories of the predetermined set, coding the data signals for that category using a codebook for that category.

21. A system for compressing data signals comprising: a storage medium, said storage medium having stored thereon data signals representing instructions, the instructions, when executed by a system recognizing the instructions, resulting in:

multiple passes over a data set, categorizing each data signal in the data set into one category of a predetermined set, and, for selected categories of the predetermined set, coding the data signals for that category using a codebook for that category; and further comprising:

a system capable of recognizing the instructions.

22. An article comprising: a storage medium, said storage medium having stored thereon compressed data signals, the data signals having been compressed as follows:

in multiple passes, categorizing each data signal in an uncompressed data set into one category of a predetermined set, and, for selected categories of the predetermined set, coding the uncompressed data signals for that category using a codebook for that category.

23. A system for processing data signals comprising: a storage medium, said storage medium having stored thereon compressed data signals, the data signals having been compressed as follows:

in multiple passes, categorizing each data signal in an uncompressed data set into one category of a predetermined set, and, for selected categories of the predetermined set, coding the uncompressed data signals for that category using a codebook for that category; and further comprising:

a system capable of decompressing the compressed data signals.

24. The system of claim 23, wherein the system comprises a digital camera.

25. The system of claim 23, wherein the system includes the capability to compress data signals for storage on said storage medium.

26. The system of claim 25, wherein the system comprises a digital camera.